

DESIGN, DEVELOPMENT OF DOMESTIC COOKSTOVE SUITABLE FOR DIFFERENT SOLID BIOMASS FUEL

ANIL RUPNAR¹ & PUSHPENDRA CHAUHAN²

¹Department of Renewable Energy Engineering, CTAE, MPUAT, Rajasthan, India

²Professor and Head, Department of Renewable Energy and Rural Engineering, CAET, JAU, Junagadh, Gujarat, India

ABSTRACT

This paper presents the study of methodology adopted for design and development of improved domestic biomass cookstove suitable for continuous operation. The consideration is made as the cookstove will be used for domestic cooking food for a family of five to six persons. At very first the amount of energy required to cook food was calculated. By using energy requirement fuel consumption rate, diameter and height of combustion chamber were estimated. Also the provision of air inlet (primary and secondary) was given as per the estimated amount of air required. The components of cookstove were fabricated as per designed dimensions and assembled by arc welding. The material used for components was as specified in BIS 13152 (Part 1): 2013 for a portable metal cookstove.

KEYWORDS: Biomass, Fuel, Cookstove & Design

Received: Oct 20, 2016; **Accepted:** Nov 11, 2016; **Published:** Nov 16, 2016; **Paper Id.:** IJEEFUSDEC20163